REMARKS

Support for the amendments to claims 1, 18, 22 and 23 replacing "print medium" with "printable substrate" is found on page 1, lines 28-31, which read as follows:

> It is desirable to provide a printable substrate for passing through a printer or a copier which may be readily folded and subsequently unfolded at a fold line defined by microperforations, either before or after being feed through a printer or copier, without tearing at the fold line.

Support for the amendments to claims 22 and 23 inserting the feature that allows printing on the fold line is found on the last line of page 2, continuing to line 2 of page 3, which reads:

> Preferably, the microperforations have a maximum dimension of less than 0.50 mm and most preferably, the maximum dimension is in the range of 0.2 mm to 0.4 mm. Perforations of this size are effective and preferably, not readily visible to allow printing on the fold line.

Claim 12 has been amended to change its dependency to claim 1 and define a "printable" substrate.

Claim Rejections Under 35 U.S.C. § 103

Claims 1–3, 5, 6, 9, 10, and 17–19 stand rejected as allegedly unpatentable in view of Tataryan (US Patent No 6,136,130) and claims 4, 7, 8, 11–13 and 22-29 stand rejected as allegedly unpatentable in view of Tataryan ('130) and Popat (US Patent No. 5,662,976) and further in view of Black (US Patent No. 6,540,131).

Applicant respectfully submits that the teachings within these references, either alone or in combination, do not show or suggest substrates having all of the features of the invention defined in claims 1-19 and 22-29. Therefore, applicant maintains the printable substrates of claims 1-19 and 22-29 are unobvious in view of these teachings.

The printable substrates claimed herein have at least one fold line which extends along the length or width of said print medium which comprises two sections in alternating fashion which are:

1) microperforated sections with ties between microperforations, and

2) non-perforated sections (which are longer than at least one tie between microperforations).

This fold line also has a functional feature of permitting the printable substrate to be folded and unfolded at least once along its length before printing or after printing without separation of the printable substrate along the fold line.

The combined teachings of the cited references do not show or suggest providing a fold line with microperforated sections and non-perforated sections. As discussed in previously, US Patent No. 6,136,130 to Tataryan et al. does not show or suggest the use of microperforations in a fold line. Similarly, newly cited reference, Black (US Patent No. 5,662,976), does not mention the use of microperforations in forming the crease line 6. Black indicates that crease line 6 may comprise "perforations" and non-perforated regions ("stops"). There is no indication or suggestion by either Tataryan or Black that microperforations will be effective in providing a fold line which does not separate during printing for the printable substrates described therein.

It is alleged that the discontinuous microperforations are equivalent to the perforations disclosed by Tataryan; however, no evidence has been presented to support this allegation and no evidence has been presented that such equivalence, if true, was known prior to applicant's invention. At column 2, lines 27-31 Tataryan ET. al. states that:

> "one currently popular type of perforations is known as microperforations, using ties which are less than 0.01 inch in width. The cuts between the ties may range from about 1/8 inch to less than 0.01 inch.

Here Tataryan, et al. describe microperforations as a type of perforation of a size from 1/8 inch to less than 0.01 inch between ties less than 0.01 inch in width. There is no indication that microperforations are considered suitable cuts or perforations for the fold lines of the sheets provided by Tataryan, et al. or that they are equivalent to the conventional cuts and perforations described therein. More importantly, there is no indication how to use microperforations in a discontinuous line to avoid separation during printing.

With respect to the issue of equivalency, the following disclosure at column 2, lines 31-35, of Tataryan et al. is relevant :

> "these microperforations form the weakened line across the sheet that was greatly weakened by a fold along the perforations, so that the sheets require less than 1 or 2 kilograms of force for separation, and these weakened sheets did not print reliably following folding

and unfolding."

This statement by Tataryan, et. al. suggests that "microperforations" are not equivalent to conventional perforations.

Popat et al. ('976) does disclose the use of microperforations in the backing layer but there is no indication they provide a fold line. Fold lines (82 and 122) comprised of perforations are disclosed by Popat et al. but there is no indication these perforations are microperforations. More importantly, the fold lines described are not intended for the complete printable substrate fed within a printer, as are the fold lines provided by the present invention. The fold lines described by Popat et al. provide for folding of a portion of the substrate which is fed through the printer. This portion is referred to as a "lamination strip." The lamination strip is supported by a backing sheet during printing. The fold lines in the lamination strip are used once the lamination strip is removed from the assembly, after printing. Therefore, the fold lines of Propat et al. do not provide for folding of the complete printable substrate before or after printing without separation along the fold line.

The combined teachings of the cited references provide no hint or suggestion that microperforations (discontinuous or otherwise) can be used to provide a fold line in a printable substrate as defined in the pending claims. Therefore, all pending claims are unobvious.

Claims 5, 10, 15, 16, 17, 18, 22 and 23

The subject matter of claims 5, 10, 15, 16, 17, 18, 22 and 23 contain features which further distinguish the teachings of the cited references.

Claim 5 defines a printable substrate as in claim 1 that requires more than 2 kilograms of force to separate at the fold line and Claims 17 and 18 define printable substrates that require more than 5 kilograms of force to separate at the fold line. The cited references provide no hint as to how to provide these features while maintaining the other parameters for the fold line.

Claim 10 defines a printable substrate as in claim 1 wherein the non-perforated sections comprise from 40 to 60% of the fold line. Only Popat et al. shows the use of non-perforated sections in a fold line and there is no hint the non-perforated sections can comprise over 40 % of the fold line.

Claim 15 and 16 define a printable substrate as in the claim 1, wherein the non-perforated sections are positioned on the fold line so as to be aligned with feed rollers of a preselected printer. Only Popat et al. shows the use of non-perforated sections in a fold line and there is no hint the non-perforated sections be aligned in this manner.

Claims 22 and 23 each define a printable substrate having a fold line with the desired strength characteristics which also allows for printing thereon. None of the references suggest the substrates provided allow for printing on the fold line.

In view of the above remarks, favorable reconsideration is courteously requested. If there are any remaining issues which can be expedited by a telephone conference, the examiner is courteously invited to telephone counsel at the number indicated below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 14-0225.

Respectfully submitted,

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